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REMARKS

Claims 11 – 14 and 16 – 20 are pending in the present application. No claims have been amended, cancelled or added leaving Claims 11 – 14 and 16 – 20 for consideration upon entry of the amendment. Reconsideration and allowance of the claims is respectfully requested in view of the following remarks.

Claim Rejections Under 35 U.S.C. §103

Claims 11 – 14 and 16 – 20 are rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,346,799 to Jeffries et al.(Jeffries), or U.S. Patent No. 5,324,620 to Ebersole et al.(Ebersole), in view of U.S. Patent No. 5,853,949 to Kodama, U.S. Patent No. 5,346,799 to Sheriff et al.(Sheriff), and U.S. Patent No. 6,232,031 to Gracia et al. (Gracia). (Office Action dated 03/03/2006, page 2)

The claimed invention is directed to a method for applying a photoresist composition to an MMN head coater, wherein the photoresist composition comprises: (a) 5 wt% to 30 wt% of a polymer resin (b) 2 wt% to 10 wt% of a diazide photoactive compound; (c) 50 wt% to 90 wt% of an organic solvent; and (d) 500 to 4000 ppm of a Si based surfactant. (see Claim 1)

Jeffries teaches an alkali-soluble novolak binder resin made by the condensation reaction of a mixture of phenolic monomers. (see Abstract) Jeffries discloses that the novolac binder resin is made by reacting about 2-18% by weight of 2,6-dimethylphenol, 55-75% by weight of 2,3-dimethylphenol and 16–40% by weight of a para-substituted lower alkyl phenol selected from the group consisting of 3,4-dimethylphenol, para-cresol, and para-cresol dimer. (see Abstract) Jeffries discloses that this particular ratio of reactants will reduce the amount of scum formed in exposed and unexposed areas. (see Col. 3, lines 12 – 16)

Ebersole teaches a radiation-sensitive composition dissolved in a solvent comprising (A) a photoactive compound; (B) an alkali-soluble novolak binder resin made by the condensation reaction of a mixture of phenolic monomers and phenolic dimers

with an aldehyde source. (see Abstract) Ebersole, like Jeffries discloses a ratio of reactants that will minimize the formation of scum. (see Col. 3, lines 12 – 16)

Kodama teaches a method of synthesizing a highly pure polyphenol compound, which comprises (i) introducing at least one --CHRNR'R" group onto aromatic ring(s) of a phenol compound having from one to ten aromatic ring(s). (see Abstract) Kodama discloses that the polyphenol compound is used in a photoresist composition along with an alkali soluble novolac compound. (see Col. 6, line 32 – Col. 7, line 5) Kodama provides a list of phenolic monomers that may be used in the development of the novolac compound, and this list includes a large number of monomers that are explicitly excluded by Ebersole or Jeffries as producing scum. (Col. 6, line 51 – Col. 7, line 5) Kodama teaches the use of surfactants in an amount of 2 parts by weight or less, preferably 1 part by weight or less, per 100 parts by weight of the total of the alkali- soluble resin and the quinonediazide compound contained in the composition. (Col. 11, lines 55 – 59)

In the first instance, Kodama specifically does not teach the use of a surfactant in an amount of 500 to 4000 parts per million of a Si-based surfactant as presently claimed. Kodama does not show the use of surfactants in amounts of less than 1 part per hundred in its examples. When one of ordinary skill in the art adds up the amount of alkali-soluble resin and the quinonediazide compound contained in the compositions of Kodama and adds surfactant in an amount of 1 part per hundred, the minimum surfactant quantity required by Kodama is 1.05%. In contrast, the presently claimed surfactant quantity (when expressed as a percentage) is 0.05 to 0.4 percent, which is significantly less than the amount taught by Kodama.

In addition, one of ordinary skill in the art upon reading Ebersole's and Jeffries's admonitions against using a large amount of ortho-bonds in the binder, would not combine these reference with that of Kodama which does not place any restrictions on the use of phenolic monomers for its binder. Kodama, in not placing any restrictions on the use of phenolic monomers teaches away from Ebersole and Jeffries and one of ordinary skill in the art would not combine these references in the manner made by the Examiner.

Sheriff teaches infra-red imaging compositions. (see Abstract) Gracia teaches the use of surfactant in amounts that are excluded by the presently claimed invention. For example, it examples 3 – 6, which the Examiner has included in the office action dated

03/03/06, page 4, Sheriff teaches 0.011 weight percent of polydimethylsiloxane surfactant. This amount is less than the 0.05 to 0.4 wt% currently claimed. Thus Sheriff even when combined with Kodama, Jeffries or Ebersole, does not teach all elements of the claimed invention.

In addition, Sheriff does not restrict the use of its phenolic monomers that are used in producing the novolac resin. For example, in Col.4, lines 28 – 31, Sheriff teaches the use of various resins that contain ortho bonds, which as discussed by Jeffries and Ebersole produce scum. Sheriff, like Kodama, thus teaches away from Ebersole and Jeffries and one of ordinary skill in the art would also not be motivated to combine Sheriff with either Ebersole or Jeffries.

Gracia teaches a coating comprising a phenolic resin. (see Abstract) Gracia teaches the use of BYK 344 in its compositions, which the Examiner insists is a polyether modified polydimethylsiloxane. (Office Action dated 03/03/06, pages 4 and 5) No proof was received of the composition of the BYK 344 with the office action. Gracia does not specify the composition of BYK 344 in its office action and Applicants' therefore maintain that Gracia does not make up for the deficiency of Ebersole or Jeffries when combined with Kodama and Sheriff.

Gracia like Kodama, and Sheriff, does not restrict use of its phenolic monomers. Gracia teaches that novolac resins such as phenol formaldehyde and cresol formaldehyde resins are preferred. (Col. 2, lines 60 – 62) In its example, Gracia teaches a cresol formaldehyde resin that does not restrict the use of ortho bonds. As noted above, both Jeffries and Ebersole indicate that the unrestricted use of ortho bonds produces scum. Thus, Gracia, like Kodama and Sheriff, teaches away from Jeffries and Ebersole and one of ordinary skill in the art upon reading Jeffries and Ebersole's teachings against using a large percentage or ortho-bonds would not be motivated to combine these references with Gracia, Sheriff or Kodama.

In summary, since the combination does not teach all elements of the claimed invention and since there is no motivation to combine these references, Applicants believe that the Examiner has not made a prima facie case of obviousness against Jeffries or Ebersole in view of Kodama, Sheriff and Gracia. Applicants respectfully request a withdrawal of the rejection and an allowance of the claimed invention.

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It is believed that the foregoing remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance is requested.

If there are any additional charges with respect to this response or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Assignee.

Respectfully submitted,

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Date: June 2, 2006